

CLAIMS

1. An electrodeposited copper foil with low roughness surface, wherein surface roughness (R_z) is 2.0 μm or less, surface uniformity is provided with low roughness without uneven surge, and a percent elongation is 10.0% or higher at 180°C.
2. The electrodeposited copper foil with low roughness surface according to claim 1, wherein degree of mirror gloss of the roughness surface, measured by Gs (85°) in accordance with JIS (Japanese Industrial Standard) Z 8741 is 100 or more.
3. A process for producing an electrodeposited copper foil with low roughness surface having surface roughness (R_z) of 2.0 μm or less, surface uniformity provided with low roughness without uneven surge and exhibiting a percent elongation of 10.0% or higher at 180°C, comprising passing a direct current between an insoluble anode consisting of a titanium plate coated with a Platinum Group element or oxide thereof and a titanium drum as a cathode counter to the anode in an electrolyte of an aqueous solution of sulfuric acid/copper sulfate, wherein said electrolyte contains an oxyethylene surfactant, a polyethyleneimine or its derivative, a sulfonate of active organosulfur compound and chloride ions.
4. The process for producing an electrodeposited copper foil with low roughness surface according to claim 3, wherein degree of mirror gloss of the roughness surface, measured by Gs (85°) in accordance with JIS Z 8741 is 100 or more in the electrodeposited copper foil with low roughness surface.
5. The process for producing an electrodeposited copper foil with

low roughness surface according to claim 3 or 4, wherein concentration of oxyethylene surfactant in the electrolyte is in the range of 10 to 200 mg/L.

6. The process for producing an electrodeposited copper foil with low roughness surface according to claim 3 or 4, wherein concentration of
5 polyethyleneimine or its derivative in the electrolyte is in the range of 0.5 to 30.0 mg/L.

7. The process for producing an electrodeposited copper foil with low roughness surface according to claim 3 or 4, wherein concentration of sulfonate of active organosulfur compound in the electrolyte is in the range of
10 5.5 to 450 $\mu\text{mol}/\text{L}$.

8. The process for producing an electrodeposited copper foil with low roughness surface according to claim 3 or 4, wherein concentration of chloride ions in the electrolyte is in the range of 20 to 120 mg/L.